

Summary of Laboratory Projection needs for Wilcox Oil Company 9-3-15

Analysis	Soil	GW
total Number	100	10
TAL metals + mercury and cyanide	100	10
Hex chromium	100	10
Tetraethyl Lead	25	10
TCL VOCs	100	10
TAL SVOCs	100	10
TCL Pesticides/PCBs	10	5
Dioxin/Furans	10	5

Metals: I need the salts added.

Metals: I need tetraethyl Lead and Chromium 6+ added.

Metals: Thallium needs a lower detection limit of 0.07 for soil and 0.02 for water.

Metals: Antimony needs a lower detection limit of 0.78 for water.

Metals: Arsenic needs a lower detection limit of 0.05 for water.

Metals: Chromium needs a lower detection limit of 0.03 for water.

Metals: Selenium needs a lower detection limit of 1 for water.

Volatiles: many of the water project

SemiVolatiles: many of the water project needs are lower than the

Pesticide/PCBs: many of the water

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Volatiles

SOM01.2 CONTRACT REQUIRED

QUANTITATION LIMITS

COMPOUND	CAS No.	Trace Water by SIM (ug/L)	Trace Water (ug/L)	Low Water (ug/L)	Low Soil (ug/kg)	Med. Soil (ug/kg)	ug/kg	ug/L
							Soil Levels for Project	Water levels for project (ug/L)
1,1,1-Trichloroethane	71-55-6	--	0.5	5	5	250	810000	200
1,1,2,2-Tetrachloroethane	79-34-5	--	0.5	5	5	250	600	0.076
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	--	0.5	5	5	250	4000000	5500
1,1,2-Trichloroethane	79-00-5	--	0.5	5	5	250	1100	0.04
1,1-Dichloroethane	75-34-3	--	0.5	5	5	250	3600	2.7
1,1-Dichloroethene	75-35-4	--	0.5	5	5	250	23000	28
1,2,3-Trichlorobenzene	87-61-6	--	0.5	5	5	250	4900	0.7
1,2,4-Trichlorobenzene	120-82-1	--	0.5	5	5	250	5800	0.4
1,2-Dibromo-3-chloropropane	96-12-8	0.05	0.5	5	5	250	5.3	0.00033
1,2-Dibromoethane	106-93-4	0.05	0.5	5	5	250	36	0.0075
1,2-Dichlorobenzene	95-50-1	--	0.5	5	5	250	180000	30
1,2-Dichloroethane	107-06-2	--	0.5	5	5	250	460	0.17
1,2-Dichloropropane	78-87-5	--	0.5	5	5	250	1000	0.44
1,3-Dichlorobenzene	541-73-1	--	0.5	5	5	250		
1,4-Dichlorobenzene	106-46-7	--	0.5	5	5	250	2600	0.48
1,4-Dioxane	123-91-1	--	--	100	100	5000	5300	0.78
2-Butanone	78-93-3	--	5	10	10	500	2700000	560
2-Hexanone	591-78-6	--	5	10	10	500	20000	3.8
4-Methyl-2-pentanone	108-10-1	--	5	10	10	500	530000	120
Acetone	67-64-1	--	5	10	10	500	6100000	1400
Benzene	71-43-2	--	0.5	5	5	250	1200	0.45
Bromochloromethane	74-97-5	--	0.5	5	5	250	15000	8.3
Bromodichloromethane	75-27-4	--	0.5	5	5	250	290	0.13
Bromoform	75-25-2	--	0.5	5	5	250	67000	9.2

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Bromomethane	74-83-9	--	0.5	5	5	250	680	0.75
Carbon disulfide	75-15-0	--	0.5	5	5	250	77000	81
Carbon tetrachloride	56-23-5	--	0.5	5	5	250	650	0.45
Chlorobenzene	108-90-7	--	0.5	5	5	250	28000	7.8
Chloroethane	75-00-3	--	0.5	5	5	250	1400000	2100
Chloroform	67-66-3	--	0.5	5	5	250	120000	0.22
Chloromethane	74-87-3	--	0.5	5	5	250	11000	19
cis-1,2-Dichloroethene	156-59-2	--	0.5	5	5	250	16000	3.6
cis-1,3-Dichloropropene	10061-01-5	--	0.5	5	5	250	1800	0.47
Cyclohexane	110-82-7	--	0.5	5	5	250	31000	1300
Dibromochloromethane	124-48-1	--	0.5	5	5	250	730	0.71
Dichlorodifluoromethane	75-71-8	--	0.5	5	5	250	8700	20
Ethylbenzene	100-41-4	--	0.5	5	5	250	5800	1.5
Isopropylbenzene	98-82-8	--	0.5	5	5	250	190000	45
m,p-Xylene	179601-23-1	--	0.5	5	5	250	55000	19
Methyl acetate	79-20-9	--	0.5	5	5	250	7800000	2000
Methyl tert-butyl ether	1634-04-4	--	0.5	5	5	250	47000	14
Methylcyclohexane	108-87-2	--	0.5	5	5	250		
Methylene chloride	75-09-2	--	0.5	5	5	250	35000	5
o-Xylene	95-47-6	--	0.5	5	5	250	65000	19
Styrene	100-42-5	--	0.5	5	5	250	600000	100
Tetrachloroethene	127-18-4	--	0.5	5	5	250	8100	4.1
Toluene	108-88-3	--	0.5	5	5	250	490000	110
trans-1,2-Dichloroethene	156-60-5	--	0.5	5	5	250	160000	36
trans-1,3-Dichloropropene	10061-02-6	--	0.5	5	5	250		
Trichloroethene	79-01-6	--	0.5	5	5	250	410	0.28
Trichlorofluoromethane	75-69-4	--	0.5	5	5	250	73000	110
Vinyl chloride	75-01-4	--	0.5	5	5	250	59	0.019

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Semivolatiles

ANALYTE	CAS No.	SOM02.2 CONTRACT REQUIRED QUANTITATION					Soil Levels	Water
		LIMITS					for	levels for
		Low Water by SIM (ug/L)	Low Water (ug/L)	Low Soil by SIM (ug/kg)	Low Soil (ug/kg)	Med. Soil (ug/kg)	Project (ug/kg)	project (ug/L)
1,1'-Biphenyl	92-52-4	--	5	--	170	5,000	4,700	0.083
1,2,4,5-Tetrachlorobenzene	95-94-3	--	5	--	170	5,000	1,800	0.17
2,2'-Oxybis(1-choloropropane)	108-60-1	--	5	--	170	5,000	4,900	0.36
2,3,4,6-Tetrachlorophenol	58-90-2	--	5	--	170	5,000	180,000	24
2,4,5-Trichlorophenol	95-95-4	--	5	--	170	5,000	620,000	120
2,4,6-Trichlorophenol	88-06-2	--	5	--	170	5,000	6,200	1.2
2,4-Dichlorophenol	120-83-2	--	5	--	170	5,000	18,000	4.6
2,4-Dimethylphenol	105-67-9	--	5	--	170	5,000	120,000	36
2,4-Dinitrophenol	51-28-5	--	10	--	330	10,000	12,000	3.9
2,4-Dinitrotoluene	121-14-2	--	5	--	170	5,000	1,700	0.24
2,6-Dinitrotoluene	606-20-2	--	5	--	170	5,000	360	0.048
2-Chloronaphthalene	91-58-7	--	5	--	170	5,000	630,000	75
2-Chlorophenol	95-57-8	--	5	--	170	5,000	3,900	9.1
2-Methylnaphthalene	91-57-6	0.1	5	3.3	170	5,000	23,000	3.6
2-Methylphenol	95-48-7	--	5	--	170	5,000	310,000	93
2-Nitroaniline	88-74-4	--	10	--	330	10,000	780,000	19
2-Nitrophenol	88-75-5	--	5	--	170	5,000		
3,3'-Dicholorobenzidine	91-94-1	--	5	--	170	5,000	1,200	0.12
3-Nitroaniline	99-09-2	--	10	--	330	10,000		
4,6-Dinitro-2-methylphenol	534-52-1	--	10	--	330	10,000	490	0.15
4-Bromophenyl-phenylether	101-55-3	--	5	--	170	5,000		
4-Chloro-3-methylphenol	59-50-7	--	5	--	170	5,000	620,000	140
4-Chloroaniline	106-47-8	--	5	--	170	5,000	2,700	0.36
4-Chlorophenyl-phenyl ether	7005-72-3	--	5	--	170	5,000		
4-Methylphenol	106-44-5	--	5	--	170	5,000	620,000	190
4-Nitroaniline	100-01-6	--	10	--	330	10,000		

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4-Nitrophenol	100-02-7	--		10	--	330	10,000		
Acenaphthene	83-32-9		0.1	5	3.3	170	5,000	350,000	53
Acenaphthylene	208-96-8		0.1	5	3.3	170	5,000		
Acetophenone	98-86-2	--		5	--	170	5,000	780,000	190
Anthracene	120-12-7		0.1	5	3.3	170	5,000	1,700,000	180
Atrazine	1912-24-9	--		5	--	170	5,000	2,300	0.3
Benzaldehyde	100-52-7	--		5	--	170	5,000	780,000	190
Benzo(a) pyrene	50-32-8		0.1	5	3.3	170	5,000	15	0.0034

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Benzo(a)anthracene	56-55-3	0.1	5	3.3	170	5,000	150	0.034
Benzo(b) fluoranthene	205-99-2	0.1	5	3.3	170	5,000	150	0.034
Benzo(g,h,i) perylene	191-24-2	0.1	5	3.3	170	5,000		
Benzo(k) fluoranthene	207-08-9	0.1	5	3.3	170	5,000	1,500	0.34
Bis(2-chloroethoxy) methane	111-91-1	--	5	--	170	5,000	18,000	5.9
Bis(2-chloroethyl) ether	111-44-4	--	5	--	170	5,000	230	0.014
Bis(2-ethylhexyl) phthalate	117-81-7	--	5	--	170	5,000	38,000	5.6
Butylbenzylphthalate	85-68-7	--	5	--	170	5,000	280,000	16
Caprolactam	105-60-2	--	5	--	170	5,000	3,100,000	990
Carbazole	86-74-8	--	5	--	170	5,000		
Chrysene	218-01-9	0.1	5	3.3	170	5,000	15,000	3.4
Dibenzo(a,h) anthracene	53-70-3	0.1	5	3.3	170	5,000	15	0.0034
Dibenzofuran	132-64-9	--	5	--	170	5,000	7,200	0.79
Diethylphthalate	84-66-2	--	5	--	170	5,000	4,900,000	1500
Dimethylphthalate	131-11-3	--	5	--	170	5,000		
Di-n-butylphthalate	84-74-2	--	5	--	170	5,000	620,000	90
Di-n-octylphthalate	117-84-0	--	5	--	170	5,000	62,000	20
Fluoranthene	206-44-0	0.1	5	3.3	170	5,000	230,000	80
Fluorene	86-73-7	0.1	5	3.3	170	5,000	230,000	29
Hexachlorobenzene	118-74-1	--	5	--	170	5,000	330	0.049
Hexachlorobutadiene	87-68-3	--	5	--	170	5,000	6,200	0.3
Hexachlorocyclopentadiene	77-47-4	--	5	--	170	5,000	37,000	3.1
Hexachloroethane	67-72-1	--	5	--	170	5,000	4,300	0.69
Indeno(1,2,3,-cd) pyrene	193-39-5	0.1	5	3.3	170	5,000	150	0.034
Isophorone	78-59-1	--	5	--	170	5,000		78
Naphthalene	91-20-3	0.1	5	3.3	170	5,000	3,800	0.17
Nitrobenzene	98-95-3	--	5	--	170	5,000	560,000	0.14
N-Nitroso-di-n propylamine	621-64-7	--	5	--	170	5,000	76	0.011
N-Nitrosodiphenylamine	86-30-6	--	5	--	170	5,000	110,000	12
Pentachlorophenol	87-86-5	0.2	10	6.7	330	10,000	990	0.04
Phenanthrene	85-01-8	0.1	5	3.3	170	5,000	990	
Phenol	108-95-2	--	5	--	170	5,000	1,800,000	580
Pyrene	129-00-0	0.1	5	3.3	170	5,000	1,700,000	12
1,4-Dioxane	123-91-1	--	2	--	67	2,000	5,300	0.78

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3-Methylphenol	108-39-4	--	5	--	--	--	310,000	93
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Pesticides/PCBs

COMPOUND	CAS No.	SOM01.2 CONTRACT REQUIREDQUANTIFICATION		ug/kg	ug/L
		Water (ug/L)	Soil (ug/Kg)	Soil Levels for Project (ug/kg)	Water levels for project (ug/L)
alpha-BHC	319-84-6	0.05	1.7	85	0.0071
beta-BHC	319-85-7	0.05	1.7	300	0.025
delta-BHC	319-86-8	0.05	1.7		
gamma-BHC (Lindane)	58-89-9	0.05	1.7		
Heptachlor	76-44-8	0.05	1.7	120	0.002
Aldrin	309-00-2	0.05	1.7	31	0.0046
Heptachlor epoxide	1024-57-3	0.05	1.7	59	0.0038
Endosulfan I	959-98-8	0.05	1.7		
Dieldrin	60-57-1	0.1	3.3	33	0.0017
4,4'-DDE	72-55-9	0.1	3.3	1600	0.23
Endrin	72-20-8	0.1	3.3	1800	0.23
Endosulfan II	33213-65-9	0.1	3.3	10	
4,4'-DDD	72-54-8	0.1	3.3	2200	0.031
Endosulfan sulfate	1031-07-8	0.1	3.3		
4,4'-DDT	50-29-3	0.1	3.3	1900	0.23
Methoxychlor	72-43-5	0.5	17	31000	3.7
Endrin ketone	53494-70-5	0.1	3.3		
Endrin aldehyde	7421-93-4	0.1	3.3		
alpha-Chlordane	5103-71-9	0.05	1.7		
gamma-Chlordane	5103-74-2	0.05	1.7		
Toxaphene	8001-35-2	5	170	480	0.015
Aroclor-1016	12674-11-2	1	33	400	0.14
Aroclor-1221	11104-28-2	1	33	150	0.0046
Aroclor-1232	11141-16-5	1	33	150	0.0046

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Aroclor-1242	53469-21-9	1	33	240 0.039
Aroclor-1248	12672-29-6	1	33	240 0.039
Aroclor-1254	11097-69-1	1	33	240 0.039
Aroclor-1260	11096-82-5	1	33	240 0.039
Aroclor-1262	37324-23-5	1	33	
Aroclor-1268	11100-14-4	1	33	